Bioengineered Bugs 3:3, 144; May/June 2012; © 2012 Landes Bioscience

H5N1 moratorium
Missing the point

Pat G. Casey

Alimentary Pharmabiotic Centre and Microbiology Department; University College Cork; Cork, Ireland

R.D. Sleator's article[1] ("Ferretting out the facts behind the H5N1 controversy") detailing the recent controversy (and its antecedents) concerning use of engineered avian H5N1 influenza virus raises some important issues. Sleator notes the similarity between the current debate and that which surrounded the "Berg letter"[2] of 1974 and the "Asilomar meeting"[3,4] of the following year. At present, research involving such viruses remains a gray area, subject to a moratorium agreed at a WHO meeting in February of this year. However, this moratorium, and much of the attendant controversy, ignores one salient fact: it is no longer 1974! The "nascent field of recombinant DNA technology" is now part of everyday life in universities and research institutes across the world. The techniques which were at the forefront of the molecular biology revolution 40 years ago are no longer "exotic" and are the preserve of all graduate students (and many undergraduate students) in the field. If persons of "nefarious intent" wish to replicate the studies of Fouchier and Kawaoka (and the likelihood of this is perhaps a debate in itself), there is little to prevent them doing so given access to a standard molecular biology laboratory and an average personal computer. The WHO moratorium may perhaps delay their work, but is highly unlikely to completely confound it, especially as similar previous research in this field has already been published in full,[5–7] as noted by Sleator. The debate within the scientific community should not be concerned with the appropriate circumstances in which to impose a moratorium, but whether such moratoria can ever succeed in their stated goals in today's world.

References

1. Sleator RD. Ferretting out the facts behind the H5N1 controversy. Bioeng Bugs 2012; 3: In press; PMID:22402712.
2. Berg P, Baltimore D, Boyer HW, Cohen SN, Davis RW, Hogness DS, et al. Letter: Potential biohazards of recombinant DNA molecules. Science 1974; 185:303; PMID:4600381; http://dx.doi.org/10.1126/science.185.4148.303.
3. Whelan WJ. Asilomar: 20 years on. FASEB J 1995; 9:295; PMID:7895999.
4. Berg P. Meetings that changed the world: Asilomar 1975: DNA modification secured. Nature 2008; 455:290-1; PMID:18800118; http://dx.doi.org/10.1038/455290a.
5. Chen LM, Blixt O, Stevens J, Lipatov AS, Davis CT, Collins BE, et al. In vitro evolution of H5N1 avian influenza virus toward human-type receptor specificity. Virology 2012; 422:105-13; PMID:22056389; http://dx.doi.org/10.1016/j.virol.2011.10.006.
6. Kimble JB, Sorrell E, Shao HX, Martin PL, Perez DR. Compatibility of H9N2 avian influenza surface genes and 2009 pandemic H1N1 internal genes for transmission in the ferret model. Proc Natl Acad Sci U S A 2011; 108:12084-8; PMID:21730147; http://dx.doi.org/10.1073/pnas.1108058108.
7. Pappas C, Viswanathan K, Chandrasekaran A, Raman R, Katz JM, Sasisekharan R, et al. Receptor specificity and transmission of H2N2 subtype viruses isolated from the pandemic of 1957. PLoS One 2010; 5:e11158; PMID:20574518; http://dx.doi.org/10.1371/journal.pone.0011158.

Correspondence to: Pat G. Casey; Email: p.casey@ucc.ie
Submitted: 03/12/12; Accepted: 03/13/12
http://dx.doi.org/10.4161/bbug.20004